

**A NEW MELOMYS FROM QUEENSLAND  
WITH NOTICE OF TWO OTHER QUEENSLAND RATS**

By H. H. FINLAYSON

[Read 8 October 1942]

PLATES VIII AND IX

Of the three rats from central coastal Queensland dealt with herein, two belong to species which, though known, have not been figured. An opportunity is taken, therefore, of making good that deficiency so far as the material permits and of amplifying the description of one of them. The third proves to be an undescribed form which may be known as

***Melomys callopes* sp. nov.**

A small species with very long tail and ear. Nearest to Lonnberg's *littoralis* located 500 miles further north, but differing in its more sombre trizonal colour; in a greyish-white instead of buffy belly; in a more complex pelage with multi-banded fur; and in the larger skull with longer anterior palatine foramina.

The following description is based upon a single specimen, originally in alcohol; an adult female taken about 30 miles south-west of Duaringa in the Rockhampton district. The animal was pregnant with two early embryos in the right horn of the uterus only; stomach contents—granular multi-coloured vegetable matter without identifiable fragments.

*External Characters.*

Form moderate, limbs rather stout. Head broad with a comparatively short blunt muzzle; well developed though sloping upper lip and prominent mentum. Mystacial vibrissae profuse but attenuated; the longest 43 mm.; black with the extreme tip white. Eye small. Ear large and broad; its substance white at the base of conch and most of the pinna dark lead colour.

*Manus* large and stout; length from base of carpal pad to tip of apical pad 11 mm.; breadth at base of digits 2-5, 5 mm.; length of third digit, 4.5 mm.; lower side of digits naked and strongly ridged, claws short reaching but slightly beyond apical pads in a palmar view. Pads large and prominent; carpals subequal; the outer descending below the inner but beginning at a lower level proximally; first and second interdigitals broadly pyriform; third bell-shaped and with a distinct postero-external satellite. Outer carpal = inner carpal > first interdigital > third > second.

*Pes* very broad interdigitally, but tapering rapidly and evenly to the heel where there is considerable lateral infringement of hair; length, 25 mm.; breadth at base of digits 1-5, 6 mm.; third digit, 6 mm. Digits and sole quite naked; former well grooved, claws projecting well beyond apical pads. Plantar pads very large, high, and prominent; beautifully sculptured with unusually broad and crisp outlines. Inner metatarsal much elongated, 4.5 mm., but nearly straight and its surface weakly striate transversely. Outer metatarsal small, round. First interdigital large reniform and with a small semi-detached satellite postero-externally; second and third pyriform and subequal; fourth reniform with its posterior extremity tapered and a distinct postero-external satellite. Inner metatarsal > first interdigital = fourth > second = third > outer metatarsal.

Tail long, very slender and nearly nude with the scales everywhere prominent; mid-dorsally there are 15 scales per centimeter and three hairs per scale.

Mammae prominent; posterior 4 mm. from base of clitoris; anterior 6.5 mm. from posterior.

### *Pelage*

From a skin made up from alcohol after a few weeks' immersion only and with the colouration apparently unchanged, short, fine and moderately soft; dense and difficult to part. Mid-dorsal length of the main pile ca. 8 mm. with a sparse overlay of a longer pile reaching 11 mm. The main pile is not homogeneous but consists of two types of hairs; type one, which are stouter, are blackish plumbeous for the basal quarter of the shaft, followed by a band of Ridgway's clay colour, topped by an attenuated blackish tip; type two, which are more slender and slightly longer, are blackish plumbeous for their basal three-quarters, followed by a greyish-white (Tilleul Buff) terminal band which is carried above the clay zone of the first type and mingles with the blackish points of the latter. The sequence of colour zones from the base up is therefore plumbeous, clay, blackish, greyish-white and again blackish, the latter being contributed by the tips of type one and by the blackish "guard" hairs, which, however, are scarcely coarser than the former and which are white-tipped on the rump.

The resulting external mid-dorsal colour viewed at a little distance is a sombre greyish-brown, near Ridgway's Mummy Brown, with a slight ashy grizzling. On the shoulders and rump the colour is colder (about Mouse Grey), the belt of warmer colour separating these areas, extending as a distinct saddle-shaped marking down to the edges of the belly.

Sides clearer and more buffy, forming at the junction with the belly a sharply contrasted lateral band of Ochraceous Buff extending from the angle of jaw to femoral area.

Ventrum basally, a paler grey than on the dorsum, externally nearly white, but the basal grey everywhere emergent except for a large gular and smaller inguinal area which are creamy white to base. Head like the midback. Upper lip whitish; cheeks buffy like the transition areas of the sides. Ears internally nearly nude with a sprinkling of brownish hairs; externally well haired and almost black with a sprinkling of silver-grey on the posterior margin; the ear as a whole much darker than and well contrasted with the head and back. Limbs externally like the sides, internally grey-white like the belly; dorsum of carpus and manus sparsely haired white, an indistinct greyish marking extending down the outer margin of the metacarpus; dorsum of pes white, faintly tinged with grey and without markings.

Integument of tail about Fuscous of Ridgway above, paler beneath; hairs blackish-brown above and darker than scales; below greyish-brown and paler than the scales. The tail as a whole is darker above than below, but is not strongly bicolor.

### *Skull*

General form broad and stout, but not with dense ossification. Muzzle region short, broad and deep. Nasals tapering strongly but evenly to the frontals, their lateral margins straight or nearly so; the naso-frontal suture narrow but not pointed and with emargination in midline. Anterior root of zygoma thrown boldly outwards almost at a right angle to the long axis of the skull; general zygomatic outline squarish but with the angles softened; the anterior zygomatic width almost equal to the posterior. Anteorbital fossa feebly developed. Interorbital region broad and with smoothly rounded edges. Lacrymals small. Braincase large, moderately elongated in shape, smooth and unridged, with a long interparietal suture. Interparietal long, narrow, spanning the braincase. In side view the skull is unusually deep from above downwards throughout its length, especially in the muzzle region. Free edge of zygomatic plate nearly vertical;

slightly convex at upper end, very slightly concave at lower. Anterior palatine foramina longer than in other species of similar size, reaching beyond the anterior margin of  $M^1$ . Posterior margin of palate with a well-developed spur. Mesopterygoid fossa very wide anteriorly. Parapterygoid fossa deep and with well-defined boundaries. Bullae small.

Incisors and incisive angle moderate; molar rows parallel; the molar crowns simple without supplementary cingular cusps and with the laminae normally arched and discrete. Lower molars with distinct supplementary posterior cusps. Coronoid process of mandible reduced.

*Flesh dimensions* (in alcohol)—Head and body, 120; tail, 144; pes, 25; ear, 18.

*Skull Dimensions*—Greatest length, 31.5; basal length, 26.6; zygomatic breadth, 15.5; braincase breadth, 14.4; interorbital breadth, 4.7; nasals length, 11.0; nasals greatest breadth, 3.7; palatal length, 16.8; palatilar length, 14.4; ant. pal. foramina length, 6.1, *ibid* breadth, 2.1; bullae, 4.7; upper molar series, 6.0; molar wear moderate on all laminae.

*Type and Habitat* as given above.

Structural figures of the nine Australian species of *Melomys* previously described are lacking<sup>(1)</sup>, and existing descriptions alone are frequently inadequate for a proper conception of relationship. Although the present form is closest to *littoralis*, it clearly cannot be merged with that species as described. It may be noted that the habitat, 80 miles from the sea and in an area of comparatively dry and temperate climate, is less coastal than that of the small, more northerly, tropical forms. As the type is in good preservation, an extended description and figures of manus, pes, skull and molars are provided.

#### PSEUDOMYS (LEGGADINA) PATRIUS Thomas and Dollman 1908

A specimen of this comparatively rare form is available from Cooti Uti, about 100 miles north of Rockhampton, where it was collected on the sea coast by Mr. R. Vallis. The locality is about midway between that of the type and the southerly record near Gladstone given by Troughton in 1936.

In dimensions and all structural characters which can be tested it is in good agreement with the type, but the colouration of the skin made up from alcohol is richer—the dorsum being near Ridgway's Hazel and therefore much brighter than the pale Wood Brown of the original description. How much of this difference is due to alteration in the alcohol it is now impossible to say, but it is noteworthy that the collector spoke of it when taken as a "red-sided mouse." The distribution of colour on appendages and body is exactly as in type.

The specimen was, unfortunately, not sexed before skinning and was too shrunk for an accurate account of its plastic parts to be drawn up. The skull, however, adult with worn molars, is nearly perfect and gives the following dimensions: greatest length, 22.8; zygomatic breadth, 11.4; braincase breadth, 11.1; interorbital breadth, 3.5; nasals greatest length, 8.2; ditto greatest breadth, 2.1; palatal length, 12.0; palatilar length, 10.6; ant. pal. foramina length, 4.3; ditto breadth, 1.5; bulla, 4.0; upper molar series, 4.1.

In dorsal aspect it is very close to the skulls of *hermannsburgensis*, falling between the two phases figured by me (Trans. Roy. Soc. S. Aust., 65, pl. xi, fig. A-B (1941)), but differs in the nasals which are longer and narrower and taper more rapidly. In palatal aspect, too, the mesopterygoid fossa is wider and more open throughout its length and the bullae are smaller in all dimensions. In the dentition the incisors are broader from side to side though of equal depth and

<sup>(1)</sup> Excellent figures of three extra Australian species have recently been published by Tate: Bull. American Mus. Nat. Hist., 72, 594 (1936).

angle. The molar row is longer and all its members heavier than in the Central animal. The anterior cingular cusp on  $M^1$  is small but distinct and is more apical than in any *hermannburgensis* skull reviewed (*loc. cit.*).

*RATTUS CULMORUM* cf. *CULMORUM* Thomas 1908

A well preserved example of this rat is in hand from the same locality as the *Melomys* species described above. It is an adult male with worn molars and is in moderately close agreement (in the characters conventionally defined) with the typical race as given by Thomas, though in one or two items it shows an approach to the New South Wales race *vallesius*. The above-mentioned locality is 300 miles south of that of the typical race and about 600 miles north of that of *vallesius*.

*External Characters*

Stout, short-limbed, medium-tailed. Head large and heavy; both deep and wide and with a short muzzle. Mystacial vibrissae well developed, to 45 mm., the shorter members black with white tip, but the longest entirely white. Eye medium. Ears comparatively short and broad; the conch and central pinna nearly white in substance; margins and upper pinna pigmented to a pale slate only; hairing medium.

*Manus*—Weak and narrow; length from base of lower carpal to apical pad of mid digit, 11.5 mm.; breadth at base of digits 2-5, 4.5 mm.; middle digit, 4.5 mm. Palm and digits quite nude and pale yellowish-white throughout; nails of medium length, stout and blunt; well fringed. Pads small but well raised and with sharp outlines. Carpals much larger than interdigitals; the outer rather larger, both in length and area, than the inner but the disproportion slight; base of the inner carpal profusely haired from the carpus. Interdigitals subequal in area, one and three bell-shaped or irregularly oval, two broadly oval; three with a small semi-detached satellite at its postero-external corner. Outer carpal > inner carpal > first interdigital = second = third.

*Pes*—Length, 27 mm.; breadth at base of digits, 1-5, 6 mm.; third digit, 5.5 mm. Sole and digits pale like manus; under-surface of toes and sole nude; the former moderately grooved and the latter very smooth; nails well developed, and moderately fringed. Pads small and weak, except the inner metatarsal which is long (4 mm.), straight and narrow, club-shaped and tapering posteriorly; outer metatarsal very small, oval and barely 1 mm. posterior to the fourth interdigital; first interdigital roughly inverted bell shape and with a large low level heel of similar shape postero-external to it; second interdigital pyriform; third very different from second, broader, almost triangular or heart-shaped; fourth bell-shaped and larger than the first and with a smaller, more distinct heel. In area inner metatarsal > second interdigital = third = fourth > first > outer metatarsal.

Tail shorter than head and body (88%) and rather slender; pale in substance and with the scales showing strongly on all surfaces; mid-dorsally 10 scales per cm.; hairing sparse; pale brown above, lighter below, but not strongly bicolor. Testes large and scrotal; scrotum pigmented on posterior lobes only.

*Pelage*

Apparently longer (15 mm. mid-dorsally) and perhaps denser and softer than in the typical race, but the colouration quite as given by Thomas.

*Flesh Dimensions* (in alcohol)

Head and body, 147; tail, 123; pes, 27; ear, 18; rhinarium to eye, 18; eye to ear, 13.

*The Skull*

Greatest length, 36.0; basal length, 33; zygomatic breadth, 20.1; braincase breadth, 15.9; interorbital breadth, 5.0; nasals length, 12.9; nasals breadth, 3.5;

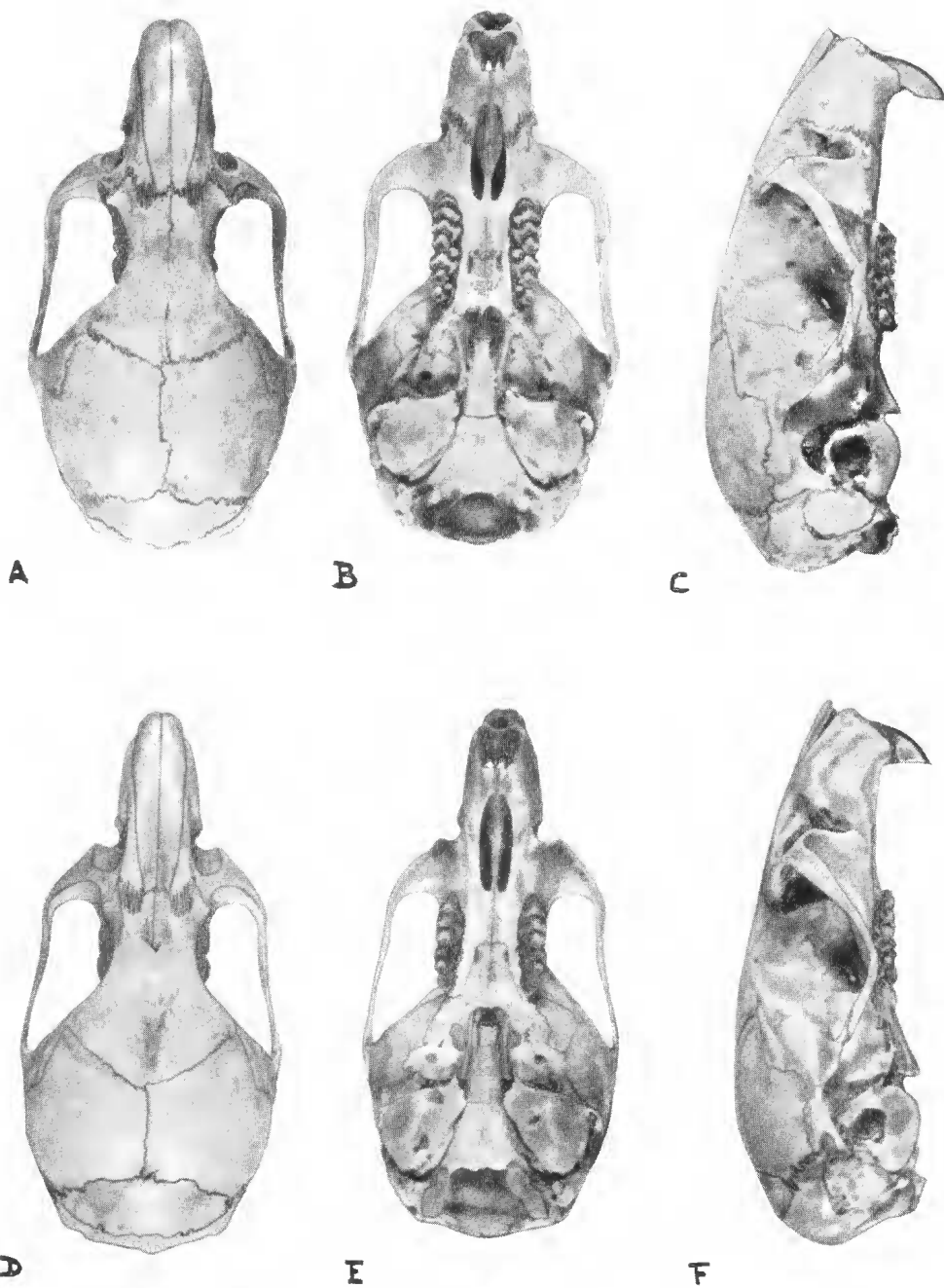


Photo by H. H. Finlayson